

Multiple Gestation Births in Rhode Island, 1989-1998

Samara I. Viner-Brown, MS, Rachel Cain,
and William H. Hollinshead, MD, MPH

Babies born as multiple births (i.e., twins, triplets, and higher order births) are at a higher risk for low birthweight (less than 2,500 grams), prematurity (less than 37 weeks gestation) and infant death (deaths occurring within 364 days of birth) compared with singleton births. Over the past ten years, Rhode Island has experienced an increase in the number and rate of multiple births, a trend that mirrors the rest of the nation.

In 1989, Rhode Island passed legislation requiring public and private insurers to provide coverage for medically necessary infertility diagnosis and treatments, including fertility drug therapies, *in vitro* fertilizations, and other assisted reproductive technologies. Since then, Rhode Island has seen changes in its birth outcomes including a dramatic increase in multiple births and an increase in the percentage of babies born at low birthweight.

Methods. Birth certificate data for Rhode Island residents were obtained for the years 1989-1998. Infant death data were obtained from a linked birth and infant death database for the years 1992-1998. Data were organized by demographic factors including maternal age, marital status, years of education, race/ethnicity and insurance type.

Multiple births are defined as twins and triplets. During 1989-1998, there were no higher order births (quadruplets, etc.). The multiple birth rate is defined as the number of multiple births per 1,000 total live births. The triplet birth rate is defined as the number of triplet births per 100,000 live births. The infant mortality rate is defined as the number of infant deaths per 1,000 live births. All data for the years 1996-1998 are considered provisional.

Results. Between 1989 and 1998, the number of multiple births in Rhode Island rose from 327 births to 500 births, a 53% increase. The rate of multiple births increased more sharply from 22.1 per 1,000 live births to 39.7, an increase of 80%. During this same ten-year period, the number of singleton births declined from 14,441 to 12,098, a 16% decrease.

Specifically, in 1989, 320 twin babies were born (counting only liveborn infants and excluding stillborns in twin births); by

1998, this figure had grown to 463, a 38% increase. Triplets also rose during this period, though more dramatically. In 1989, there were seven triplet babies; by 1998, there were 37, a 429% increase. (Provisional data indicate there were 54 in 1999).

Low Birthweight: In Rhode Island, between 1989 and 1998, the percentage of all babies born at low birthweights rose from 6.2% to 7.6%. This increase has occurred while other perinatal indicators have been improving, e.g., a decline in the rates of teen births, maternal tobacco use and infant mortality.

In 1989, multiple births represented 2.2% of all births, 16.3% of low birthweight births, and 18.8% of all very low birthweight (less than 1,500 grams) births. Comparatively, in 1998, multiple births represented 4.0% of all births, 31.3% of low birthweight births and 37.8% of the very low birthweight births. (Figure 1)

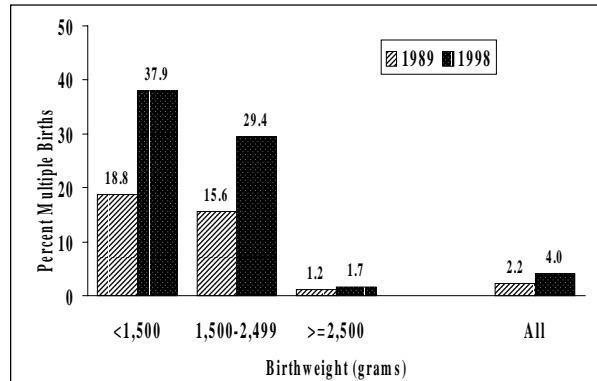


Figure 1. Multiple Births as a Percentage of All Births by Birthweight, Rhode Island, 1989 - 1998.

The percentage of multiple births that were low birthweight and very low birthweight has risen during 1989-1998. In 1989, 45.3% of multiple births were low birthweight and 10.4% were very low birthweight compared with 59.8% low birthweight and 16.2% very low birthweight in 1998. There was virtually no change in the proportion of singleton births that were low birthweight or very low birthweight.

Prematurity: During the 1989-1998 period, the percentage of babies born prematurely, i.e., prior to 37 weeks gestation, increased from 5.9% to 7.1%. However, the percentage of multiple births born prematurely rose from 22% to 42%. In 1989, multiple births accounted for 8% of all premature births, and in 1998, they accounted for 24% of all premature births.

Health by Numbers

Infant Deaths: Infant mortality has declined in Rhode Island over the last decade as it has in the rest of the country. To account for the relatively small numbers of infant deaths in the state each year and the year-to-year fluctuations in the infant mortality rate, data have been analyzed for two five-year periods, 1989-1993 and 1994-1998.

During the period 1989-1993, the infant mortality rate in Rhode Island was 8.0 compared with 6.2 during the 1994-1998 period, a 22.5% decrease. The multiple infant mortality rate decreased by 28% from 46.7 to 33.5.

Maternal Characteristics: Figure 2 compares the changes in rates of multiple births between 1989 and 1998, by selected maternal characteristics, including age, marital status, education, race/ethnicity, and insurance.

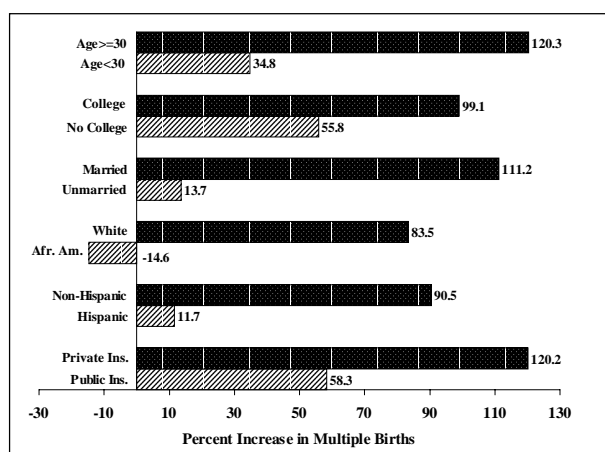


Figure 2. Percent Increase in Multiple Births by Selected Maternal Characteristics, Rhode Island, 1989-1998.

The multiple birth rate approximately doubled among women who were aged 30 or above, college-educated, married, White, or privately insured.

National Trends: Rhode Island's multiple birth rate of 39.7 is 32% higher than that of the United States' rate of 30.0.¹ Both the twin and triplet birth rates are higher in Rhode Island than in the United States. In 1998, the twin birth rate in

Rhode Island was 36.8 compared with 28.1 in the United States. The triplet birth rate in Rhode Island was 293.7 compared with 193.5 for the country. During the 1989-1998 period, Rhode Island's triplet rate rose 520% compared with 180% for the country.

Discussion. During the ten-year period 1989-1998, the number of multiple births in Rhode Island has risen 53% and the rate of multiple births has risen 80%. This rise in multiple births is of concern because of their higher risk for poor outcomes, including low birthweight, developmental delays and infant death.

Although multiple births represent 4% of all births in Rhode Island, they account for more than one-third of the very low birthweight births and for one in six infant deaths. Rhode Island's increase in multiple births parallels the country's trend, although Rhode Island's rate of triplet births has risen nearly three times faster. Between 1989 and 1998, a growing proportion of multiple births were among women who were White, aged 30 or older, married, college-educated and/or privately insured.

Some of the increase in multiple births can be attributed to an increase in the use of fertility drugs and assisted reproductive technologies. The National Center for Health Statistics estimates that about one-third of the increase nationally in triplet births is due to the fact that more older women, who are more likely to have multiple births, are giving birth. About two-thirds of the increase is due to the increasing use of fertility treatments, independent of the mother's age².

Samara Viner-Brown, MS, is Chief, Data and Evaluation, Division of Family Health. Rachel Cain is Principal Systems Analyst, Division of Family Health. William H. Hollinshead, MD, MPH, is Medical Director, Division of Family Health, and Clinical Assistant Professor of Community Health, Brown University School of Medicine.

References

1. National Center for Health Statistics. News Releases and Fact Sheets. "Births in the U.S. Increase for the First Time Since 1990." Web site: www.cdc.gov/nchs/releases/00news/00news/nrbth98.htm
2. Martin JA, MacDorman MF, Mathews TJ. Triplet Births: Trends and Outcomes, 1971-1994. National Center for Health Statistics. Vital and Health Statistics 21(55). 1997.

Originally published in the June 2000 issue of Medicine & Health / Rhode Island

Web edition
Health by
Numbers
produced by
Rhode Island Department of HEALTH
design: Richard Bolig

For more information, contact:
Rhode Island Department of Health
Office of Health Statistics
3 Capitol Hill
Providence, Rhode Island 02908
telephone 401 222-2550